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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,312	10/02/2002	Hideaki Takahashi	SIMTEK6469	7690

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ERNEST A. BEUTLER, ATTORNEY AT LAW
10 RUE MARSEILLE
NEWPORT BEACH, CA 92660

EXAMINER	
COMAS, YAHVEH	

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/065,312	TAKAHASHI, HIDEAKI	
	Examiner	Art Unit	
	Yahveh Comas	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-9, 11-12 and14-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-12,14 and 15* is/are rejected.

7)☒ Claim(s) *16-19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1, 3-11, 12, 14 and 15 has been considered but are moot in view of the new ground of rejection.

Applicant's arguments, see pages 2-8, filed 12/13/2004, with respect to the rejection of claim 1, 3-11, 12, 14 and 15 under 35 U.S.C. 103(a), have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Satake et al. EP 0447257A2 in view of Nashiki U.S. Patent Re 29,775 and in further view of Hasebe et al. U.S. Patent No. 5,528,094.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3 – 9, 11-12, 14 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Satake et al. EP 0447257A2 in view of Nashiki U.S. Patent Re 29,775 and in further view of Hasebe et al. U.S. Patent No. 5,528,094.

Satake discloses a rotating machine comprised of a primary device having a pair of relatively rotatable assemblies consisting of one assembly comprised of circumferential spaced permanent magnets of alternating polarity (85), the other of said assemblies being comprised of a plurality magnetic poles (21) cooperating with said permanent magnets and surrounded by coil winding, relative rotation of said assemblies generating an attraction/repulsion between the rotor magnets and the stator poles (column 3, lines 38-52), and a selectively operate torque canceling device for selectively generating a attraction/repulsion between the rotor magnets and the stator poles canceling torque out of phase with and substantially canceling that of said primary assembly, said torque canceling device having a second pair (22 and 86) of relatively rotatable assemblies. The torque-canceling device is operated only at lower speed of relative motion of the primary device and generates the canceling cogging torque electrically. The phase difference between the first and second pair relatively assemblies are equal to one half of the mechanical rotational angle of a single phase of the cogging torque of the first relatively rotatable assembly (for example fig. 13c). The second pair of relatively rotatable assemblies of cogging torque canceling device is comprised of one assembly comprised of circumferential spaced permanent magnets

(86) of alternating polarity, the other of said assemblies being comprised of a plurality magnetic poles (22) cooperating with said permanent magnets and surrounded by coil winding, relative rotation of said second pair of relatively rotatable assemblies generating a canceling cogging torque. The first and second pair of relatively rotatable assemblies has substantially the same construction and is out of phase with each other. Also the operation of the cogging torque of the cogging canceling device is achieved by controlling the current in the coil of the second pair of relatively rotatable assemblies and the rotor structure has a pole teeth (see fig. 3). Stakes did not use the word cogging torque to describe the attraction/repulsion between the rotor magnets and the stator poles (column 3, lines 38-52) however, is well know in the art and disclosed by Hasebe that when the corner of the permanent magnet passes over the stator pole gap, the attraction and/or repulsion between the rotor and the stator poles pulsates to produce the cogging torque. Therefore the attraction/repulsion between the rotor magnets and the stator poles disclosed by Stakes is cogging torque.

Regarding claim 15 Stakes discloses, as show in fig. 13c, a mechanically operated cogging torque canceling device (86 and 22) for selectively generating a canceling cogging torque out of phase and substantially canceling that of said primary assembly, said cogging torque canceling device having a second pair of selectively rotatable assemblies. Satake discloses the claimed invention except for:

- A plurality of radial extending magnetic poles surrounded by coil windings and defining slots therebetween.

Nashiki discloses an electric machine comprising circumferential-spaced permanent magnets of alternating polarity and a plurality of radial extending magnetic poles surrounded by coil windings and defining slots (1-36) therebetween for the purpose of reduce the torque ripple (column 17, lines 25-27).

Therefore, it would have been obvious to one having skill in the art at the time the invention was made to provide a electric machine comprising circumferential-spaced permanent magnets of alternating polarity and a plurality of radial extending magnetic poles surrounded by coil windings and defining slots (1-36) as disclosed by Nashiki since this would had been desirable to reduce the torque ripple.

Allowable Subject Matter

Claims 16-19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The Prior art doesn't show alone or in combination a mechanically operated cogging torque canceling device for selectively generating a canceling cogging torque out of phase and substantially canceling that of said primary assembly, said cogging torque canceling device having a second pair of selectively rotatable assemblies, wherein said assemblies comprises a cam mechanism for generating a sinusoidal force resisting relative rotation that is equal to the cogging torque of the first pair of relatively rotatable assemblies.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yahveh Comas whose telephone number is (571)272-2020. The examiner can normally be reached on 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YC

DARREN SCHUBERG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800